

09/262362

ABSTRACT

Image representation is performed by dividing a source image into foreground, background and selector planes. The foreground plane is selected to contain mainly line type art or textual type information, the background plane mainly contains image data, and the selector plane identifies whether the image data is maintained in either a specific plane or a combination of planes. A color is selected, by averaging or selecting an appropriate value based on overflow or other criteria, to replace each color in the foreground plane. Error in portions of the foreground plane resulting from replacing foreground colors is fed into corresponding portions of the background plane. Each plane is then compressed using compression schemes appropriate for the type of data maintained in each plane (LZW for the foreground, and JPEG for the background and lossless fax LLITT, for example). Image reconstruction is performed by decompressing each of the foreground and background planes, and selecting pixels from each of the foreground plane and an additive image produced by combining image data from both the foreground, background, and selector planes. The selection is made based on the selector plane (selection mask), which identifies where image data is maintained for the reconstructed image (i.e., the upper plane or a combination of planes).